



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,779	08/25/2003	Raquel Sanchez	47092.00039	1084

32294 7590 10/06/2005

SQUIRE, SANDERS & DEMPSEY L.L.P.  
14TH FLOOR  
8000 TOWERS CRESCENT  
TYSONS CORNER, VA 22182

EXAMINER

DESIR, PIERRE LOUIS

ART UNIT

PAPER NUMBER

2681

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/646,779

Applicant(s)

SANCHEZ, RAQUEL

Examiner

Pierre-Louis Desir

Art Unit

2681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 August 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 10/26/2004.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 16, and 32 are rejected under 35 U.S.C. 102(e) as being anticipated by Kikuchi et al. (Kikuchi), Pub. No. US 20030195962.

Regarding claim 1, Kikuchi discloses a method for choosing a network element of a mobile telecommunication network from a plurality of network elements in order to provide a predetermined service (see abstract), comprising the steps: choosing a server pool, the server pool being composed of the plurality of network elements, all of which provide the same predetermined service (i.e., when the switch is started, the connection managing unit establishes the LDAP connection with each server belonging to the server pool. Thus, a server pool is inherently chosen or selected so that the connection unit can establish the LDAP connection with each server belonging to the selected server) (see fig. 6, page 2, and paragraph 33. Also refer to the description of fig. 8), defining a pool handle, wherein a pool handle is a name which identifies the server pool (i.e., reference number 38 denotes a pool identifier for uniquely identifying each server pool) (see figs. 8-9, page 3, paragraph 55), and providing a name server for handling requests from a

Art Unit: 2681

pool user to the server pool (i.e., the connection managing unit reads the server name described at the head of the server pool definition file, builds up a Bind request of establishing the LDAP connection with the server, and requests the server communication control unit to send the server) (see fig. 6, page 2, paragraph 33), wherein the name server identifies a request to the server pool by means of the pool handle (see fig. 8, pages 3-4, and paragraph 60) and selects according to predetermined criteria the network elements for providing the predetermined service (see fig. 8, pages 3-4, and paragraph 8).

Regarding claim 16, Kikuchi discloses a network comprising a server pool having a plurality of network elements, all of which provide a same predetermined service (see abstract, fig. 6, page 2, and paragraph 33. Also refer to the description of fig. 8), a pool handle, wherein a pool handle is a name, which identifies the server pool (i.e., reference number 38 denotes a pool identifier for uniquely identifying each server pool) (see figs. 8-9, page 3, paragraph 55), and a name server for handling requests from a pool user to the server pool, wherein the name server is adapted to identify a request to the server pool by means of the pool handle (see fig. 6, page 2, paragraph 33) and selecting according to predetermined criteria the network elements for providing the predetermined service (see fig. 8, pages 3-4, and paragraph 8).

Regarding claim 32, Kikuchi discloses a network allowing choice of a network element from a plurality of network elements in order to provide a predetermined service (see abstract), comprising choosing means for choosing a server pool, the server pool being composed of the plurality of network elements, all of which provide the same predetermined service (see abstract, fig. 6, page 2, and paragraph 33. Also refer to the

Art Unit: 2681

description of fig. 8), defining means for defining a pool handle, wherein a pool handle is a name which identifies the server pool (see figs. 8-9, page 3, paragraph 55), and name serving means for serving handling requests from a pool user to the server pool, wherein the name serving means identifies a request to the server pool by means of the pool handle (see fig. 6, page 2, paragraph 33) and selects according to predetermined criteria the network elements for providing the predetermined service (see fig. 8, pages 3-4, and paragraph 8).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-3, 6, 10, 17-18, 21, 25, 28, 33-34, 37, 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi in view of Turina et al. (Turina), U.S. Patent No. 6826198.

Regarding claims 2, 17, and 33, Kikuchi discloses a method and network comprising steps and means as described above (see claims 1, 16, 32 rejections).

Although Kikuchi discloses a method and a network as described, Kikuchi does not specifically disclose a method and a network wherein the plurality of network elements are radio network controllers according to the UMTS standard, the request to be handled is a paging request from a core network element acting as a pool user, where the core network element is one of a mobile services switching center and a serving GPRS

Art Unit: 2681

support node, and the service to be provided is transmitting a paging message to a predetermined user equipment.

However, Turina discloses a method and a network wherein the plurality of network elements are radio network controllers according to the UMTS standard (i.e. third generation radio network controllers) (see paragraph 8), the request to be handled is a paging request from a core network element acting as a pool user (see abstract, page 2, and paragraph 31), where the core network element is one of a mobile services switching center and a serving GPRS support node (i.e., mobile switching apparatus) (see abstract, page 2, paragraph 31), and the service to be provided is transmitting a paging message to a predetermined user equipment (i.e. paging response) (see abstract, page 2, paragraph 31).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Turina with the teachings as described by Kikuchi to arrive at the claimed invention. A motivation for doing so would have been to provide dynamic system capability.

Regarding claims 3, 18, and 34, Kikuchi discloses a method and network as described above (see claims 2, 17, and 33 rejections).

Although Kikuchi discloses a method as described, Kikuchi does not specifically disclose a method wherein the name server identifies the predetermined user equipment by an user equipment identification, with the user equipment identification is one of a temporary identity of the user equipment and a subscriber identity stored on a subscriber identity module associated with the user equipment.

However, Turina discloses a method wherein the name server identifies the predetermined user equipment by an user equipment identification, with the user equipment identification is one of a temporary identity of the user equipment and a subscriber identity stored on a subscriber identity module associated with the user equipment (i.e., mobile station originating signaling messages are distributed to different mobile switching centers MSC on the basis of the subscriber identity comprised in a signaling message. Thus, one skilled in the art would unhesitatingly conceptualize that a signaling message router or distributor routes or distributes signaling message to the serving mobile switching center by using the subscriber unit's (temporary) identification number assigned) (see page 2, paragraph 26).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teaching as described to ensure that the signaling message is routed or distributed to the proper mobile switching center accordingly.

Regarding claims 6, 21, and 37, Kikuchi discloses a method and a network as described above (see claims 2, 17, and 33 rejections).

Although Kikuchi discloses a method as described, Kikuchi does not specifically disclose a method wherein the name server selects according to a predetermined algorithm one radio controller from the radio controllers, which are capable of transmitting a paging message to predetermined user equipment.

However, Turina discloses a method wherein a relay unit comprises a selection unit adapted to specify a mobile switching apparatus in the pool handling response according to a specified selection algorithm (see page 3, paragraph 42).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Turina with the teachings as described by Kikuchi to arrive at the claimed invention. A motivation for doing so would have been to ensure that the signaling message is routed or distributed to the proper mobile switching center accordingly.

Regarding claim 10, 25, and 41, Kikuchi discloses a method and a network as described above (see claims 2, 16, and 33 rejections).

Although Kikuchi discloses a method and a network as described, Kikuchi does not specifically disclose a method and a network wherein the radio controller sends information to the name server containing an identification of the selected radio controller and of the predetermined user equipment after having performed paging to the predetermined user equipment.

However, Turina disclose a method and a network wherein the mobile switching apparatus may then inform all mobile switching apparatuses in the pool about the received mobile subscriber identity so that the one mobile switching apparatus that initiated the global paging message may, e.g., respond to the receiving mobile switching apparatus with its mobile switching identity for relaying the response to a global paging message thereto (see paragraph 47).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by Turina with the teachings as described by Kikuchi to arrive at the claimed invention. A motivation for doing so would have been to provide dynamic system capability.

Regarding claim 28, Kikuchi discloses a network as described above (see claim 16 rejection).

Although Kikuchi discloses a network as described, Kikuchi does not specifically disclose a network wherein the selected radio controller is adapted to indicate to the name server that a connection between the predetermined user equipment and the selected radio controller is terminated and the name server is adapted to change the mapping between the predetermined user equipment and the selected radio controllers in response to the indication from the selected radio controller.

However, Turina discloses a method and a network (see claims 11, and 42 rejections) wherein related data for mobile switching apparatus and access nodes linked to the router apparatus may be preferably periodically updated (see paragraph 142, and refer to claim 11 rejection). Thus, one skilled in the art would immediately envision that as a mobile attaches or detaches to/from a mobile switching apparatus, information contained in the MSC has to be updated accordingly.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to ensure the proper identification of the mobile apparatus handling the paging response.

5. Claims 4, 19, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi and Turina in further view of Artola et al. (Artola), International Publication No. WO 02/071776.

The combination discloses a method and a network as described above (see claims 2, 17, and 33 rejections).

Although the combination discloses a method and a network as described, the combination does not specifically disclose a method and a network wherein the name server accesses a location area or a routing area, which indicate the area in which the user equipment is currently located, and selects a radio controller which is close enough to the user equipment for transmitting a paging message to predetermined user equipment.

However, Artola discloses a method and a network wherein the name server accesses a location area or a routing area, which indicate the area in which the user equipment is currently located, and selects a radio controller which is close enough to the user equipment for transmitting a paging message to predetermined user equipment (i.e., the controller BSC2 can be a BSC or RNC for a GSM or UMTS system, respectively, and may execute a selection S130 of one of the network servers MSC1; MSC2 in the server pool CNSP. The controller BSC2 may use a list that comprises the network servers MSC1; MSC2 in the server pool CNSP. For the selection S130 of one of the network servers MSC1; MSC2, the controller BSC2 may take into account location information of the mobile device MS, of the controller BSC2 or of one or more of the network servers MSC1; MSC2) (see page 20, lines 10-17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described in Kikuchi and Turina with the teachings as specified by Artola to arrive at the claimed invention. A motivation for doing so would have been to ensure that the mobile device is linked with the proper

Art Unit: 2681

network servers, which would maximize its communication potential as related to resources.

6. Claims 5, 7, 11-13, 20, 22, 26-27, 36, 38, 42-44, are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi and Turina in further view of Ho et al. (Ho), U.S. Patent No. 6091953.

Regarding claims 5, 20, and 36, the combination discloses a method and a network as described above (see claims 2, 17, and 33 rejections).

Although the combination discloses a method and a network as described, the combination does not specifically disclose a method and a network wherein the name server checks whether the predetermined user equipment is assigned to a particular radio controller and selects the particular radio controller for paging.

However, Ho discloses a method and a network wherein during an operation in which a signaling message is sent by a base station controller on behalf of the mobile unit, the message router then extracts the temporary ID, determines the serving mobile switching center from the temporary ID, and routes the signaling message to the serving mobile switching center. The serving mobile switching center then may service the mobile unit, based upon the signaling message content (see col. 3, lines 10-19).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by ho with the teachings as described by Kikuchi and Turina to arrive at the claimed invention. A motivation for doing so would have been to substantially reduce subscriber mobility overhead (see col. 3, lines 55-56).

Regarding claims 7, 22, and 38, the combination discloses a method and a network as described above (see claims 6, 21, and 37 rejections).

Although the combination discloses a method and a network as described, the combination does not specifically disclose a method and a network wherein the one radio controller is selected using an algorithm for balancing loads of the radio controllers.

However, Ho discloses a method and a network wherein base station controllers initially assign mobile units to the mobile switching centers to balance load (see col. 3, lines 40-42) using an algorithm (see col. 23, lines 64-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to increase the system capacity (see col. 3, lines 52-54).

Regarding claims 11, 26, and 42, Kikuchi and Turina disclose a method and a network as described above (see claims 2, 16, 33 rejections).

Although Kikuchi and Turina disclose a method and a network, Kikuchi and Turina do not specifically disclose a method and a network wherein the name server stores a mapping between the predetermined user equipment and the selected radio controllers.

However, Ho discloses a method and a network wherein a message router stores a small table which maps the MSC ID to a network address that can be used to direct signaling message to the serving MSC (see col. 8, lines 34-37). Thus, with the MSC ID mapping to a network address, inherently the router stores a mapping between the mobile unit and the serving MSC.

Therefore, it would have been obvious to one skilled in the art at the time of the invention to combine the teachings as described by Ho with the teachings described by Kikuchi and Turina to arrive at the claimed invention. A motivation for doing so would have been to provide a method with capability to store signaling association attributes--used in the context of addressing of signaling messages.

Regarding claims 12, 27, and 43, Turina discloses a method and a network (see claim 11, 16, and 42 rejection) wherein a pool consist of a plurality of mobile switching apparatus, which are connected via a bus to a pool controller, wherein the bus may be any type of link, e.g., circuit oriented connection, packet oriented connection. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as disclosed by Kikuchi and Turina with the teachings as described by Ho to arrive at a method wherein the mapping information would also contain information for circuit and packet oriented communications to ensure the proper functioning in both domains (circuit-switched and packet-switched).

Regarding claims 13, and 44, Turina discloses a method and a network (see claims 11, and 42 rejections) wherein related data for mobile switching apparatus and access nodes linked to the router apparatus may be preferably periodically updated (see paragraph 142, and refer to claim 11 rejection). Thus, one skilled in the art would immediately envision that as a mobile attaches or detaches to/from a mobile switching apparatus, information contained in the MSC has to be updated accordingly.

Art Unit: 2681

7. Claims 8-9, 23-24, 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi and Turina in further view of Chuah, Pub. No. US 20030076803.

Regarding claims 8, 23, and 39, Kikuchi and Turina disclose a method and a network as described above (see claims 6, 21, and 37 rejections).

Although the combination discloses a method and a network as described, the combination does not specifically disclose a method and a network wherein the name server creates a ranking list of the radio controllers capable of transmitting a paging message to the predetermined user equipment, wherein a first radio controller in the list is a most favorable to perform paging and a last radio controller in the list is a least favorable to perform paging.

However, Chuah discloses a method and a network comprising maintained RNC list. Using the maintained RNC list which can reflect the priority of the RNCs for each particular Nodeb (see page 3, paragraph 22). Thus, one skilled in the art would unhesitatingly conceptualize that by having a list, which can reflect the priority (or ranking) of the RNCs, that the maintained list would inherently comprise a most favorable and least favorable RNC for communication.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include a ranking or priority list to identify appropriate radio controllers for assignment because it would facilitate the determination of which controller to use as related to the improvement of load balancing (see abstract).

Regarding claims 9, 24, and 40, Kikuchi and Turina disclose a method and a network as described above (see claim 8, 23, 39 rejections).

Although the combination discloses a method and a network as described, the combination does not expressly disclose a method and a network wherein an identity of the selected radio controller or the ranking list of the radio controllers is sent to the core network elements acting as the pool user.

However, as described above, Chuah discloses a RNC list, which reflect priority of the RNCs (see paragraph 22), wherein the Nodeb decide how to route requests using RNC assignment system, and once the RNC is assigned, communication can be accomplished (see page 3, paragraphs 22-23). Thus, one skilled in the art would immediately envision that once the RNC is selected, the RNC must be inherently identified to the network for communication to take place.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to implement the teachings as described by Chuah with the teachings described by Kikuchi and Turina to arrive at the claimed invention. A motivation for doing so would have been to ensure proper routing of communication, which would increase system capacity.

8. Claims 14, 29, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi in view of Musikka et al. (Musikka), US pub. No. 20010030941.

Kikuchi discloses a method and a network as described above (see claims 1, 16, and 32 rejections).

Although Kikuchi discloses a method and a network as described, Kikuchi does not specifically disclose a method and a network wherein the plurality of network

Art Unit: 2681

elements are a plurality of gateway servers of an Internet Protocol based radio access network, wherein the Internet Protocol based radio access network is one of radio access network gateways and circuit switched gateways, and the pool user is a Radio access network access server.

However, Musikka discloses a method and a network comprising of a plurality of gateway servers of an Internet protocol based radio access network (i.e., network elements) (see figs. 2A-2B, page 2, paragraph 20), wherein the Internet protocol based radio access network is one of radio access network gateways and circuit switched gateways (i.e., IP-based BSS components) (see page 2, paragraph 20), and a radio access network access server (i.e., RNS) (see page 2, paragraph 20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to ensure high availability of network elements especially during catastrophic events (see abstract).

9. Claims 15, 30-31 and 46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kikuchi in view of Artola.

Kikuchi discloses a method and a network as described above (see claims 1, 16, and 32 rejections).

Although Kikuchi discloses a method and a network as described, Kikuchi does not specifically disclose a method and a network wherein the plurality of network elements are network servers serving GPRS support nodes or gateway GPRS support nodes, nor does he disclose a network wherein the name server constitutes a core network

Art Unit: 2681

node such as a serving GPRS node, a home location register or a mobile services switching center.

However, Artola discloses a method and a network wherein the network servers in the server pool are serving general packet radio service support nodes (SGSNs) (see page 13, lines 10-12).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described to arrive at the claimed invention. A motivation for doing so would have been to provide a node capable of accomplishing the full set of interworking with the connected radio network.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Louis Desir whose telephone number is 703-605-4312. The examiner can normally be reached on (571) 272-7799.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2681

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Pierre-Louis Desir

AU 2681

10/01/2005

**JEAN GELIN**  
**PRIMARY EXAMINER**

